
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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COPPER IN FEBRUARY 1997

Owing to the shortness of the February reporting period, monthly mine, smelter and refinery production all declined from the levels of the previous month. However, mine and refinery production were 2% and 4%, respectively, above February 1996 levels, reflecting increasing production from projects initiated in 1996. Several new projects, which had been previously slated for startup in 1997, have been either delayed or abandoned. Great Lakes Minerals Inc., Toronto, Canada, abandoned its plans to develop the 543-S deposit in Montana. The economic feasibility of the project was based on shipping ore to the Copper Range Co. concentrator at White Pine, MI. Great Lakes could not justify building a concentrator at the 543-S deposit and the project became uneconomic with closure of the White Pine Mine and concentrator in 1995. Arimetco International Inc. is delaying startup of its Sullivan, NV, project and has reduced expansion expectations at its Yerington, NV, project. Cambior Inc., which had completed a feasibility study in 1993 for its Carlotta project in Arizona, does not expect to complete permitting and begin construction until the second half of 1997 (Cambior Inc., 1997).

Despite a slight rise in both domestic exchange (Comex and LME) and global exchange warehouse inventories, copper prices in February were at the highest average monthly level in 8 months. In the United States, consumption of refined copper remained strong with consumption for the first 2 months of the year 10% higher than that of the equivalent period of 1996. As a result, Comex prices, which had traded at a discount to LME prices in January, rose to average more than 3 cents per pound more than LME prices during the last week of February. Copper prices continued to strengthen in March, the Comex spot price averaging \$1.148 for the month and peaking at \$1.195 on March 25. However, following announcement by the Federal Reserve Board of a raise in interest rates, copper prices, along with those for other major nonferrous metals, softened, the spot Comex copper price averaging \$1.097 for April.

Reference Cited

Cambior Inc., 1997, Cambior annual report 1996: Montreal, Canada, 56p.

TABLE 1
SALIENT STATISTICS OF THE COPPER INDUSTRY IN THE UNITED STATES 1/

(Metric tons, unless noted)

| | Source table 2/ | 1996 p/ | 1997 | | January- February |
|--|--------------------|--------------|------------|----------|----------------------|
| | | | January | February | |
| Production: | | | | | |
| Primary: | | | | | |
| Mine, recoverable | (2) | 1,910,000 | 158,000 | 144,000 | 302,000 |
| Smelter 3/ | (3) | 1,290,000 | 118,000 r/ | 111,000 | 229,000 |
| Refinery: | | | | | |
| Electrolytic: | | | | | |
| Domestic | (4) | 1,290,000 | 114,000 r/ | 114,000 | 228,000 |
| Foreign | (4) | 146,000 | 8,240 | 7,520 | 15,800 |
| Electrowon | (4) | 574,000 | 47,900 | 43,100 | 91,100 |
| Total | (4) | 2,010,000 | 170,000 r/ | 165,000 | 334,000 |
| Secondary recoverable copper: | | | | | |
| Refineries | | | | | |
| Ingot makers 4/ | (5) | 124,000 | 10,300 | 10,300 | 20,700 |
| Brass and wire-rod mills | (5) | 719,000 | 64,900 r/ | 61,300 | 126,000 |
| Foundries, etc. | (5) | 62,400 | 5,200 | 5,200 | 10,400 |
| Consumption: | | | | | |
| Total apparent | (8) | 2,900,000 | 250,000 | NA | NA |
| Refined (reported) | (7) | 2,630,000 | 239,000 | 225,000 | 464,000 |
| Purchased copper-base scrap | (9) | 1,640,000 r/ | 144,000 r/ | 144,000 | 288,000 |
| Stocks at end of period: | | | | | |
| Total refined | (11) | 145,000 | 151,000 | 154,000 | XX |
| Blister, etc. | (11) | 173,000 | 168,000 r/ | 173,000 | XX |
| Prices: | | | | | |
| U.S. producer cathode (cents per pound) | (12) | 109.044 | 111.949 | 113.564 | 112.757 |
| Imports: | | | | | |
| Ores and concentrates 5/ | (14) | 72,400 | 13 | NA | NA |
| Refined | (14) | 543,000 r/ | 55,400 | NA | NA |
| Exports: | | | | | |
| Ores and concentrates 5/ | (15) | 195,000 | 3,790 | NA | NA |
| Refined | (15) | 170,000 | 11,100 | NA | NA |

p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Numbers in parentheses refer to the detailed tables where these data are located.

3/ From domestic and foreign ores.

4/ 1996 and 1997 monthly data estimated based on 1995 monthly average.

5/ Copper content.

TABLE 2
MINE PRODUCTION OF RECOVERABLE COPPER
IN THE UNITED STATES 1/

(Metric tons)

| Period | State | | Total |
|-------------|-----------|-----------|-----------|
| | Arizona | Others 2/ | |
| 1996: p/ | | | |
| February | 93,000 | 47,900 | 141,000 |
| March | 108,000 | 55,800 | 164,000 |
| April | 103,000 | 53,900 | 157,000 |
| May | 107,000 | 53,700 | 161,000 |
| June | 106,000 | 56,100 | 163,000 |
| July | 104,000 | 57,400 | 161,000 |
| August | 106,000 | 58,900 | 165,000 |
| September | 99,900 | 58,200 | 158,000 |
| October | 105,000 | 59,300 | 164,000 |
| November | 102,000 | 55,000 | 157,000 |
| December | 104,000 | 60,800 | 165,000 |
| Jan. - Feb. | 197,000 | 98,400 | 296,000 |
| Year total | 1,240,000 | 667,000 | 1,910,000 |
| 1997: | | | |
| January | 97,900 r/ | 59,800 | 158,000 |
| February | 89,900 | 54,100 | 144,000 |
| Jan. - Feb. | 188,000 | 114,000 | 302,000 |

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes production from Idaho, Illinois, Missouri, Montana, Nevada, New Mexico, Utah, and Wisconsin.

TABLE 3
COPPER 1/ PRODUCED AT SMELTERS IN THE UNITED STATES, BY SOURCE 2/

(Metric tons, copper content)

| Period | Domestic and foreign ores | Scrap | Total |
|-------------|---------------------------|---------|------------|
| | | | |
| 1996: p/ | | | |
| February | 109,000 | 28,800 | 138,000 |
| March | 104,000 | 30,200 | 134,000 |
| April | 105,000 | 28,200 | 133,000 |
| May | 97,600 | 27,400 | 125,000 |
| June | 105,000 | 29,300 | 134,000 |
| July | 105,000 | 30,500 | 136,000 |
| August | 97,200 | 29,100 | 126,000 |
| September | 113,000 | 27,800 | 140,000 |
| October | 117,000 | 28,700 | 146,000 |
| November | 110,000 | 27,200 | 137,000 |
| December | 115,000 | 31,900 | 146,000 |
| Jan. - Feb. | 224,000 | 56,200 | 280,000 |
| Year total | 1,290,000 | 347,000 | 1,640,000 |
| 1997: | | | |
| January | 118,000 r/ | 28,100 | 146,000 r/ |
| February | 111,000 | 26,600 | 137,000 |
| Jan. - Feb. | 229,000 | 54,800 | 283,000 |

p/ Preliminary. r/ Revised.

1/ Includes blister, anode and black copper from primary or secondary sources.

2/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 4
PRODUCTION OF REFINED COPPER, BY SOURCE AND METHOD OF RECOVERY 1/

(Metric tons)

| Period | Primary materials | | | | Scrap | | | Total refined |
|-------------|-----------------------------|---------|------------|------------|-----------------------------|--------------|-----------|---------------|
| | Electrolytically refined 2/ | | Electrowon | Total | Electrolytically refined 2/ | Fire refined | Total | |
| | Domestic 3/ | Foreign | | | | | | |
| 1996: p/ | | | | | | | | |
| February | 103,000 | 14,800 | 43,500 | 161,000 | 13,700 | 12,800 | 26,400 | 187,000 |
| March | 107,000 | 14,400 | 45,900 | 168,000 | 14,200 | 14,000 | 28,200 | 196,000 |
| April | 110,000 | 14,800 | 47,400 | 173,000 | 14,200 | 10,400 | 24,700 | 197,000 |
| May | 107,000 | 13,900 | 50,700 | 172,000 | 16,900 | 12,700 | 29,600 | 201,000 |
| June | 94,600 | 9,430 | 48,300 | 152,000 | 17,300 | 13,700 | 30,900 | 183,000 |
| July | 113,000 | 10,600 | 48,200 | 172,000 | 18,100 | 6,310 | 24,400 | 196,000 |
| August | 102,000 | 12,000 | 47,100 | 161,000 | 14,000 | 11,000 | 25,000 | 186,000 |
| September | 105,000 | 12,700 | 45,900 | 163,000 | 12,900 | 13,900 | 26,800 | 190,000 |
| October | 122,000 | 9,190 | 51,600 | 183,000 | 17,200 | 13,500 | 30,600 | 213,000 |
| November | 105,000 | 10,100 | 47,800 | 163,000 | 15,000 | 10,900 | 25,900 | 189,000 |
| December | 113,000 | 8,240 | 49,700 | 171,000 | 18,500 | 7,800 | 26,300 | 198,000 |
| Jan. - Feb. | 215,000 | 30,600 | 91,000 | 337,000 | 28,000 | 26,200 | 54,200 | 391,000 |
| Year total | 1,290,000 | 146,000 | 574,000 | 2,010,000 | 186,000 | 140,000 | 327,000 | 2,340,000 |
| 1997: | | | | | | | | |
| January | 114,000 r/ | 8,240 | 47,900 | 170,000 r/ | 24,500 r/ | 11,500 | 36,000 r/ | 206,000 |
| February | 114,000 | 9,050 | 43,100 | 166,000 | 18,000 | 12,000 | 30,000 | 196,000 |
| Jan. - Feb. | 228,000 | 17,300 | 91,100 | 336,000 | 42,400 | 23,500 | 65,900 | 402,000 |

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Based on source of material at smelter level.

3/ Includes fire-refined copper.

TABLE 5
COPPER RECOVERABLE IN UNALLOYED AND ALLOYED FORM FROM PURCHASED COPPER-BASED SCRAP 1/

(Metric tons, copper content)

| Period | Refineries 2/ | | Ingot makers 3/ | | Brass and wire-rod mills | | Foundries, etc. 4/ | | Total 5/ |
|-------------|---------------|-----------|-----------------|-----------|--------------------------|-----------|--------------------|-----------|------------|
| | New scrap | Old scrap | New scrap | Old scrap | New scrap | Old scrap | New scrap | Old scrap | |
| 1996: p/ | | | | | | | | | |
| February | 9,790 | 16,600 | 2,890 | 7,440 | 54,000 | 2,980 | 2,240 | 2,960 | 99,000 |
| March | 11,100 | 17,200 | 2,890 | 7,440 | 57,600 | 2,660 | 2,240 | 2,960 | 104,000 |
| April | 8,200 | 16,500 | 2,890 | 7,440 | 57,400 | 4,240 | 2,240 | 2,960 | 102,000 |
| May | 10,000 | 19,600 | 2,890 | 7,440 | 60,100 | 4,230 | 2,240 | 2,960 | 109,000 |
| June | 10,900 | 20,000 | 2,890 | 7,440 | 58,700 | 4,960 | 2,240 | 2,960 | 110,000 |
| July | 6,010 | 18,400 | 2,890 | 7,440 | 50,100 | 3,880 | 2,240 | 2,960 | 93,900 |
| August | 8,310 | 16,700 | 2,890 | 7,440 | 55,600 | 3,870 | 2,240 | 2,960 | 100,000 |
| September | 10,300 | 16,500 | 2,890 | 7,440 | 55,000 | 3,850 | 2,240 | 2,960 | 101,000 |
| October | 10,900 | 19,800 | 2,890 | 7,440 | 56,300 | 3,640 | 2,240 | 2,960 | 106,000 |
| November | 8,730 | 17,200 | 2,890 | 7,440 | 54,200 | 4,580 | 2,240 | 2,960 | 100,000 |
| December | 5,750 | 20,600 | 2,890 | 7,440 | 53,600 | 4,410 | 2,240 | 2,960 | 99,900 |
| Jan. - Feb. | 20,900 | 33,300 | 5,780 | 14,900 | 113,000 | 6,340 | 4,480 | 5,930 | 205,000 |
| Year total | 111,000 | 216,000 | 34,700 | 89,200 | 672,000 | 46,700 | 26,900 | 35,600 | 1,230,000 |
| 1997: | | | | | | | | | |
| January | 10,800 r/ | 25,200 r/ | 2,890 | 7,440 | 61,500 r/ | 3,340 | 2,240 | 2,960 | 116,000 r/ |
| February | 10,600 | 19,400 r/ | 2,890 | 7,440 | 60,100 | 1,170 | 2,240 | 2,960 | 107,000 |
| Jan. - Feb. | 21,300 | 44,600 | 5,780 | 14,900 | 122,000 | 4,510 | 4,480 | 5,930 | 223,000 |

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Electrolytically refined and fire-refined scrap based on source of material at smelter level.

3/ Data no longer collected monthly; 1995 and 1996 data estimated based on 1995 annual data.

4/ Estimate based on 1995 annual data.

5/ Does not include an estimate, based on reported 1995 data, of 3,100 tons per month from new scrap and 2,330 tons per month from old scrap of copper recovered from scrap other than copper-base.

TABLE 6
PRODUCTION, SHIPMENTS, AND STOCKS OF BRASS AND WIRE-ROD MILL SEMIFABRICATES 1/

(Metric tons, gross weight)

| Period | Production | | Shipments | | Stocks, end of period | |
|-------------|-------------|----------------|-------------|----------------|-----------------------|----------------|
| | Brass mills | Wire rod mills | Brass mills | Wire rod mills | Brass mills | Wire rod mills |
| 1996: p/ | | | | | | |
| February | 128,000 | 153,000 | 130,000 | 157,000 | 48,800 | 63,500 |
| March | 144,000 | 171,000 | 142,000 | 160,000 | 51,300 | 74,300 |
| April | 131,000 | 157,000 | 133,000 | 175,000 | 49,400 | 55,800 |
| May | 130,000 | 173,000 | 129,000 | 165,000 | 51,000 | 63,200 |
| June | 131,000 | 163,000 | 126,000 | 151,000 | 55,200 | 75,200 |
| July | 111,000 | 139,000 | 114,000 | 152,000 | 52,200 | 62,900 |
| August | 130,000 | 142,000 | 132,000 | 156,000 | 50,300 | 48,500 |
| September | 135,000 | 163,000 | 136,000 | 158,000 | 49,300 | 53,200 |
| October | 139,000 | 180,000 | 139,000 | 184,000 | 49,400 | 50,100 |
| November | 135,000 r/ | 176,000 | 134,000 | 171,000 | 50,700 r/ | 55,000 |
| December | 114,000 r/ | 155,000 | 113,000 | 143,000 | 52,000 r/ | 66,500 |
| Jan. - Feb. | 248,000 | 298,000 | 252,000 | 303,000 | XX | XX |
| Year total | 1,550,000 | 1,920,000 | 1,550,000 | 1,920,000 | XX | XX |
| 1997: | | | | | | |
| January | 134,000 r/ | 178,000 | 135,000 r/ | 183,000 | 51,500 | 61,300 |
| February | 132,000 | 169,000 | 132,000 | 163,000 | 51,500 | 67,200 |
| Jan. - Feb. | 266,000 | 347,000 | 267,000 | 346,000 | XX | XX |

p/ Preliminary. r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 7
CONSUMPTION OF REFINED COPPER 1/

(Metric tons)

| Period and item | Wire rod mills | Brass mills 2/ | Other plants 3/ | Total |
|-----------------------|----------------|----------------|-----------------|-----------|
| 1996: p/ | | | | |
| February | 165,000 | 47,200 | 4,630 | 216,000 |
| March | 181,000 | 56,400 | 4,630 | 242,000 |
| April | 162,000 | 47,500 | 4,630 | 214,000 |
| May | 184,000 | 47,500 | 4,630 | 236,000 |
| June | 164,000 | 49,400 | 4,630 | 218,000 |
| July | 147,000 | 41,900 | 4,630 | 193,000 |
| August | 154,000 | 50,100 | 4,630 | 209,000 |
| September | 162,000 | 55,600 | 4,630 | 222,000 |
| October | 185,000 | 54,100 | 4,630 | 244,000 |
| November | 177,000 | 47,200 | 4,630 | 229,000 |
| December | 150,000 | 46,900 | 4,630 | 201,000 |
| Jan. - Feb. | 318,000 | 92,300 | 9,270 | 420,000 |
| Year total | 1,980,000 | 589,000 | 55,600 | 2,630,000 |
| 1997: | | | | |
| January | 179,000 | 55,000 r/ | 4,630 | 239,000 |
| February: | | | | |
| Cathodes | 172,000 | 27,400 | 1,120 | 200,000 |
| Wire bars | -- | W | W | W |
| Ingots and ingot bars | -- | 1,670 | 1,660 | 3,330 |
| Cakes and slabs | -- | 8,720 | W | 8,720 |
| Billets and other | -- | 10,800 | 1,860 | 12,700 |
| Total | 172,000 | 48,600 | 4,630 | 225,000 |
| Jan. - Feb. | 351,000 | 104,000 | 9,270 | 464,000 |

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Billets and other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ In 1995, brass mills consumed 2,210 tons of refined lead, 706 tons of pig tin, 3,870 tons of refined nickel, and 64,100 tons of slab zinc.

3/ Monthly consumption by ingot makers, chemical plants, foundries, and miscellaneous manufacturers; estimated based on 1995 annual data.

TABLE 8
U.S. APPARENT CONSUMPTION OF COPPER 1/

(Metric tons)

| Period | Refined copper production | Copper in old scrap 2/ | Net refined imports | Stock change during period | Apparent consumption |
|-------------|---------------------------|------------------------|---------------------|----------------------------|----------------------|
| 1996: p/ | | | | | |
| February | 161,000 | 32,300 | 24,800 | (21,400) | 239,000 |
| March | 168,000 | 32,600 | 35,500 | (7,120) | 243,000 |
| April | 173,000 | 33,400 | 37,300 | 10,800 | 232,000 |
| May | 172,000 | 36,500 | 46,000 | (26,400) | 281,000 |
| June | 152,000 | 37,700 | 33,900 | (7,400) | 231,000 |
| July | 172,000 | 35,000 | 38,000 | 23,300 | 222,000 |
| August | 161,000 | 33,300 | 47,100 | (6,660) | 248,000 |
| September | 163,000 | 33,100 | 47,800 | (13,100) | 257,000 |
| October | 183,000 | 36,100 | 29,700 | (4,510) | 253,000 |
| November | 163,000 | 34,500 | 49,100 | (14,400) | 261,000 |
| December | 171,000 | 37,700 | 31,300 | 20,500 | 220,000 |
| Jan. - Feb. | 337,000 | 65,100 | 54,200 | 7,180 | 449,000 |
| Year total | 2,010,000 | 415,000 | 450,000 | (17,800) | 2,900,000 |
| 1997: | | | | | |
| January | 170,000 r/ | 41,300 | 44,300 | 5,820 | 250,000 |
| February | 165,000 | 33,300 | NA | 2,400 | NA |
| Jan. - Feb. | 334,000 | 74,500 | NA | 8,220 | NA |

p/ Preliminary. r/ Revised. NA Not available.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes reported monthly production of copper from old scrap of copper-base and of non-copper-base materials and estimates for annual reporters based on 1995 data.

TABLE 9
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP 1/

(Metric tons, gross weight)

| Period | Smelters and refineries | | Ingot makers 2/ | | Brass and wire-rod mills 3/ | | Foundries, etc. e/ | | Total scrap used |
|-------------|-------------------------|-----------|-----------------|-----------|-----------------------------|-----------|--------------------|-----------|------------------|
| | New scrap 2/ | Old scrap | New scrap | Old scrap | New scrap | Old scrap | New scrap | Old scrap | |
| 1996: p/ | | | | | | | | | |
| February | 10,700 | 28,200 | 3,870 | 11,300 | 68,200 | 3,830 | 2,570 | 3,390 | 132,000 |
| March | 11,700 | 32,200 | 3,870 | 11,300 | 72,300 | 3,570 | 2,570 | 3,390 | 141,000 |
| April | 9,680 | 26,800 | 3,870 | 11,300 | 71,900 | 5,000 | 2,570 | 3,390 | 134,000 |
| May | 10,800 | 31,400 | 3,870 | 11,300 | 75,500 | 5,100 | 2,570 | 3,390 | 144,000 |
| June | 13,200 | 36,300 | 3,870 | 11,300 | 73,200 | 5,990 | 2,570 | 3,390 | 150,000 |
| July | 8,120 | 27,900 | 3,870 | 11,300 | 63,800 | 4,790 | 2,570 | 3,390 | 126,000 |
| August | 10,000 | 28,300 | 3,870 | 11,300 | 70,700 | 4,880 | 2,570 | 3,390 | 135,000 |
| September | 12,700 | 27,000 | 3,870 | 11,300 | 69,100 | 5,010 | 2,570 | 3,390 | 135,000 |
| October | 11,600 | 33,500 | 3,870 | 11,300 | 71,600 | 4,510 | 2,570 | 3,390 | 142,000 |
| November | 10,700 | 29,000 | 3,870 | 11,300 | 67,900 r/ | 5,530 | 2,570 | 3,390 | 134,000 r/ |
| December | 7,700 | 31,700 | 3,870 | 11,300 | 66,100 r/ | 5,400 | 2,570 | 3,390 | 132,000 r/ |
| Jan. - Feb. | 23,200 | 54,800 | 7,730 | 22,600 | 142,000 | 7,930 | 5,140 | 6,770 | 271,000 |
| Year total | 130,000 | 359,000 | 46,400 | 136,000 | 845,000 r/ | 57,700 | 30,800 | 40,600 | 1,640,000 r/ |
| 1997: | | | | | | | | | |
| January | 12,400 | 29,200 | 3,870 | 11,300 | 77,800 r/ | 3,420 | 2,570 | 3,390 | 144,000 r/ |
| February | 14,500 | 30,700 | 3,870 | 11,300 | 76,300 | 1,240 | 2,570 | 3,390 | 144,000 |
| Jan. - Feb. | 26,900 | 60,000 | 7,730 | 22,600 | 154,000 | 4,660 | 5,140 | 6,770 | 288,000 |

e/ Estimated. p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data for 1996 and 1997 are estimated from 1995 annual data.

3/ Consumption at brass and wire-rod mills assumed equal to receipts.

TABLE 10
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP 1/ 2/

(Metric tons, gross weight)

| Scrap type and processor | 1996 p/ | | | 1997 | | |
|-------------------------------------|-------------|-----------|------------|-----------|----------|-------------|
| | Jan. - Feb. | December | Year total | January | February | Jan. - Feb. |
| No. 1 wire and heavy: | | | | | | |
| Smelters, refiners and ingot makers | 25,500 | 8,400 | 147,000 | 12,000 | 12,800 | 24,800 |
| Brass and wire-rod mills | 59,800 r/ | 28,600 r/ | 355,000 r/ | 33,300 r/ | 29,400 | 62,700 |
| No. 2 mixed heavy and light: | | | | | | |
| Smelters, refiners and ingot makers | 31,900 | 20,600 | 215,000 | 18,400 | 23,200 | 41,600 |
| Brass and wire-rod mills | 5,580 r/ | 2,220 | 34,600 | 3,070 | 3,340 | 6,410 |
| Total unalloyed scrap: | | | | | | |
| Smelters, refiners and ingot makers | 57,400 | 29,000 | 362,000 | 30,400 | 36,000 | 66,400 |
| Brass mills | 65,400 r/ | 30,800 r/ | 390,000 r/ | 36,400 r/ | 32,700 | 69,100 |
| Red brass: 3/ | | | | | | |
| All plants | 11,000 r/ | 5,500 r/ | 66,200 r/ | 5,690 r/ | 5,440 | 11,100 |
| Leaded yellow brass: | | | | | | |
| All plants | 63,700 r/ | 29,900 r/ | 395,000 r/ | 35,700 | 35,900 | 71,500 |
| Yellow and low brass: | | | | | | |
| Smelters, refiners and ingot makers | (4/) | (4/) | (4/) | (4/) | (4/) | (4/) |
| Brass mills | 9,510 r/ | 3,330 r/ | 52,000 r/ | 3,240 r/ | 3,330 | 6,570 |
| Cartridge cases and brass: | | | | | | |
| Smelters, refiners and ingot makers | -- | -- | -- | -- | -- | -- |
| Brass mills | 8,350 r/ | 4,430 r/ | 45,700 r/ | 4,320 r/ | 4,490 | 8,810 |
| Auto radiators: | | | | | | |
| Smelters, refiners and ingot makers | 12,200 | 6,080 | 73,000 | 6,080 | 6,080 | 12,200 |
| Bronzes: | | | | | | |
| Smelters, refiners and ingot makers | -- | -- | -- | -- | -- | -- |
| Brass mills | 1,980 | 999 | 11,200 | 1,050 | 1,100 | 2,140 |
| Nickel-copper alloys: | | | | | | |
| Smelters, refiners and ingot makers | -- | -- | -- | -- | -- | -- |
| Brass mills | 4,000 | 1,070 r/ | 20,500 r/ | 1,620 r/ | 1,260 | 2,880 |
| Low grade & residues: | | | | | | |
| Smelters, refiners and ingot makers | 14,800 | 7,240 | 88,800 | 7,520 | 5,820 | 13,300 |
| Other alloy scrap: 5/ | | | | | | |
| Smelters, refiners and ingot makers | 6,440 | 3,560 | 41,400 | 3,960 | 3,790 | 7,750 |
| Brass mills | 715 | 347 | 4,440 | 326 | 392 | 718 |
| Total alloyed scrap: | | | | | | |
| Smelters, refiners and ingot makers | 51,000 | 25,700 | 309,000 | 26,400 | 24,500 | 50,800 |
| Brass mills | 85,000 r/ | 40,700 r/ | 512,000 r/ | 44,800 r/ | 44,800 | 89,600 |
| Total scrap: | | | | | | |
| Smelters, refiners and ingot makers | 108,000 | 54,600 | 671,000 | 56,800 | 60,500 | 117,000 |
| Brass and wire-rod mills | 150,000 r/ | 71,500 r/ | 902,000 r/ | 81,200 r/ | 77,500 | 159,000 |

p/ Preliminary. r/ Revised.

1/ Does not include: consumption by foundries, chemical plants and miscellaneous manufacturers, estimated to total about 6,000 tons of scrap per month in 1995; consumption of home scrap at brass mills which averaged 57,200 tons per month in 1995. Includes estimates of about 30,000 tons of scrap per month consumed by ingot makers and several smelters that report only on an annual basis.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ Includes composition turnings, silicon bronze, zincy bronze, railroad car boxes, cocks and faucets, gilding metal and commercial bronze.

4/ Withheld to avoid disclosing company proprietary data; included in "Other alloy scrap."

5/ Includes refinery brass, beryllium copper, phosphor copper and aluminum bronze.

TABLE 11
COPPER STOCKS AT END OF PERIOD 1/

(Metric tons)

| Period | Crude copper 2/ | Refined copper | | | | | LME 6/ | Total refined |
|-----------|-----------------|----------------|-------------------|----------------|----------|----------|--------|---------------|
| | | Refineries 3/ | Wire rod mills 3/ | Brass mills 3/ | Other 4/ | Comex 5/ | | |
| 1996: p/ | | | | | | | | |
| February | 177,000 | 31,700 | 22,600 | 11,200 | 3,540 | 11,700 | 89,600 | 170,000 |
| March | 153,000 | 33,800 | 19,500 | 9,820 | 3,540 | 12,600 | 84,000 | 163,000 |
| April | 171,000 | 35,600 | 25,500 | 11,300 | 3,540 | 18,800 | 79,400 | 174,000 |
| May | 166,000 | 35,500 | 19,200 | 9,840 | 3,540 | 12,000 | 67,500 | 148,000 |
| June | 162,000 | 33,500 | 13,100 | 12,700 | 3,540 | 6,880 | 70,400 | 140,000 |
| July | 154,000 | 41,700 | 29,700 | 13,700 | 3,540 | 16,100 | 58,700 | 164,000 |
| August | 159,000 | 34,000 | 25,800 | 13,800 | 3,540 | 20,100 | 59,600 | 157,000 |
| September | 161,000 | 32,400 | 19,400 | 12,800 | 3,540 | 19,700 | 56,000 | 144,000 |
| October | 163,000 | 33,900 | 31,000 | 13,200 | 3,540 | 28,600 | 29,200 | 139,000 |
| November | 167,000 | 32,200 | 30,600 | 11,600 | 3,540 | 26,000 | 20,900 | 125,000 |
| December | 173,000 | 32,200 | 32,100 | 12,700 | 3,540 | 26,600 | 38,300 | 145,000 |
| 1997: | | | | | | | | |
| January | 168,000 r/ | 30,200 r/ | 28,000 | 13,100 r/ | 3,540 | 16,700 | 59,800 | 151,000 |
| February | 173,000 | 33,000 | 22,300 | 13,000 | 3,540 | 22,500 | 59,300 | 154,000 |

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Copper content of blister and other materials in transit and in process of refining.

3/ Stocks of refined copper as reported; no estimates are made for non-respondents.

4/ Monthly estimates based on reported and 1995 annual data, comprising stocks at secondary smelters, chemical plants, foundries, and miscellaneous manufacturers.

5/ Commodity Exchange Inc., New York.

6/ London Metal Exchange Ltd., U.S. warehouses.

TABLE 12
AVERAGE PRICE OF COPPER IN THE UNITED STATES AND
ON THE LONDON METAL EXCHANGE

(Cents per pound)

| Period | U.S. producers delivered price | | Comex first position 3/ | LME cash price Grade A |
|-----------|--------------------------------|------------|-------------------------|------------------------|
| | Cathode 1/ | Wirebar 2/ | | |
| 1996: | | | | |
| February | 120.020 | 128.668 | 116.668 | 115.077 |
| March | 121.540 | 130.200 | 118.200 | 116.140 |
| April | 122.628 | 131.286 | 119.286 | 117.707 |
| May | 126.667 | 135.327 | 123.327 | 120.527 |
| June | 107.828 | 116.538 | 104.488 | 98.447 |
| July | 94.007 | 102.693 | 90.667 | 90.006 |
| August | 95.479 | 104.139 | 92.139 | 91.072 |
| September | 93.848 | 102.623 | 90.508 | 88.026 |
| October | 96.873 | 105.533 | 93.533 | 88.935 |
| November | 104.097 | 112.776 | 100.776 | 101.149 |
| December | 104.114 | 114.781 | 102.781 | 102.837 |
| Average | 109.044 | 117.888 | 105.872 | 104.045 |
| 1997: | | | | |
| January | 111.949 | 120.054 | 108.291 | 110.417 |
| February | 113.564 | 122.224 | 110.224 | 109.081 |
| Average | 112.757 | 121.139 | 109.258 | 109.749 |

1/ Listed as "U.S. producer cathode."

2/ Listed as "Electrolytic wirebar (Warrenton Refining Co.)."

3/ Listed as "Comex high grade first position."

Sources: Platt's Metals Week and American Metal Market.

TABLE 13
NEW YORK AVERAGE BUYING PRICES FOR COPPER SCRAP

(Cents per pound)

| Month | Brass mills No. 1 scrap | Refiners No. 2 scrap | Dealers (New York) | |
|-----------|----------------------------|-------------------------|--------------------|-----------------------------------|
| | | | No. 2 scrap | Red brass turnings and borings |
| 1996: | | | | |
| February | 111.85 | 93.83 | 89.75 | 57.00 |
| March | 113.06 | 96.54 | 92.53 | 57.66 |
| April | 114.20 | 96.99 | 84.43 | 58.00 |
| May | 116.25 | 97.10 | 84.59 | 57.84 |
| June | 96.95 | 83.00 | 77.85 | 55.35 |
| July | 88.58 | 69.76 | 64.43 | 46.79 |
| August | 90.85 | 73.93 | 64.00 | 46.09 |
| September | 88.69 | 72.56 | 64.00 | 46.00 |
| October | 89.21 | 73.04 | 64.00 | 46.00 |
| November | 97.04 | 79.22 | 64.63 | 46.63 |
| December | 99.17 | 81.94 | 65.00 | 47.00 |
| Average | 101.53 | 84.42 | 75.27 | 51.85 |
| 1997: | | | | |
| January | 99.29 | 81.49 | 66.13 | 47.57 |
| February | 106.74 | 87.80 | 67.42 | 48.21 |
| Average | 103.02 | 84.65 | 66.78 | 47.89 |

Source: American Metal Market.

TABLE 14
U.S. IMPORTS FOR CONSUMPTION OF COPPER (UNMANUFACTURED), BY CLASS 1/

(Metric tons, copper content)

| Country or territory | Ore and concentrate | | Matte, ash and precipitates | | Blister and anodes | | Refined | |
|-------------------------|------------------------|------|--------------------------------|------|--------------------|--------|------------|--------|
| | 1996 | 1997 | 1996 | 1997 | 1996 | 1997 | 1996 | 1997 |
| | | Jan. | | Jan. | | Jan. | | Jan. |
| Brazil | -- | -- | -- | -- | -- | -- | 15,600 | -- |
| Canada | 9,000 | -- | 236 | 17 | 80,200 2/ | 6,870 | 278,000 2/ | 23,500 |
| Chile | 59,800 | -- | -- | -- | 51,700 | 3,870 | 119,000 | 13,600 |
| Germany | -- | -- | -- | -- | -- | -- | 9,960 | (3/) |
| Japan | -- | -- | -- | -- | (3/) | -- | 3,940 | 1,640 |
| Kazakstan | -- | -- | -- | -- | -- | -- | 2,630 | 1,550 |
| Malaysia | -- | -- | 79 | -- | -- | -- | -- | -- |
| Mexico | 3,680 | -- | 2,050 | 61 | 19,600 | 988 | 30,300 | 1,440 |
| Peru | -- | -- | -- | -- | 9,550 | 1,500 | 64,700 | 14,200 |
| Russia | -- | -- | -- | -- | -- | -- | 15,000 | 4 |
| Spain | -- | -- | -- | -- | 2,710 | 554 | -- | -- |
| Taiwan | -- | -- | 24 | 11 | -- | (3/) | (3/) | -- |
| Venezuela | -- | 13 | -- | -- | -- | -- | -- | -- |
| Other | 3 | -- | 2 | -- | 649 | -- | 4,420 r/ | 29 |
| Total | 72,400 | 13 | 2,390 | 90 | 164,000 2/ | 13,800 | 543,000 2/ | 55,400 |

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data revised to correct the misclassification of 76,400 tons of refined copper as copper anode.

3/ Less than 1/2 unit.

Source: Bureau of the Census, data adjusted by the U.S. Geological Survey.

TABLE 15
U.S. EXPORTS OF COPPER (UNMANUFACTURED), BY CLASS 1/

(Metric tons, copper content)

| Country or territory | Ore and concentrate | | Matte, ash and precipitates | | Blister and anodes | | Refined | |
|----------------------|---------------------|-------|-----------------------------|-------|--------------------|-------|---------|--------|
| | 1997 | | 1997 | | 1997 | | 1997 | |
| | 1996 | Jan. | 1996 | Jan. | 1996 | Jan. | 1996 | Jan. |
| Belgium | -- | -- | 3 | 71 | 239 | -- | 46 | -- |
| Brazil | 2,810 | -- | 5 | -- | -- | -- | 25 | -- |
| Canada | 79,900 | 3,790 | 31,500 | 1,370 | 18,000 | 1,410 | 28,700 | 3,490 |
| China | 54,500 | -- | 2 | -- | 44 | -- | 233 | -- |
| Costa Rica | -- | -- | 12 | -- | -- | -- | 3 | 127 |
| France | -- | -- | -- | -- | 17 | 33 | 145 | 15 |
| Germany | 76 | -- | 1 | -- | 463 | -- | 189 | -- |
| Hong Kong | 16 | -- | 29 | -- | 1,170 | 699 | 525 | 47 |
| Italy | 8 | -- | 2 | -- | 451 | 133 | 2,150 | -- |
| Japan | 47,600 | -- | 2,130 | 19 | 456 | 125 | 31,900 | 2,590 |
| Korea, Republic of | 1,570 | -- | 19 | -- | 1,100 | 176 | 3,480 | 495 |
| Malaysia | -- | -- | -- | -- | (2/) | -- | 6,470 | -- |
| Mexico | 2,340 | -- | 2,790 | 1,160 | 410 | 36 | 11,800 | 349 |
| Nigeria | -- | -- | 71 | 33 | -- | -- | -- | -- |
| Singapore | -- | -- | 8 | -- | 44 | 52 | 2,690 | 636 |
| Spain | 2,800 | -- | 6 | -- | 15 | -- | 7 | -- |
| Taiwan | -- | -- | -- | -- | 330 | 439 | 54,100 | 2,210 |
| Thailand | -- | -- | -- | -- | 112 | 22 | 26,400 | 989 |
| Other | 3,550 | -- | 484 r/ | 72 | 391 r/ | 30 | 900 | 119 |
| Total | 195,000 | 3,790 | 37,100 | 2,730 | 23,200 | 3,160 | 170,000 | 11,100 |

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 16
U.S. COPPER SCRAP TRADE 1/

(Metric tons, gross weight)

| Country or territory | Imports | | | | Exports | | | |
|----------------------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|
| | Unalloyed | | Alloyed | | Unalloyed | | Alloyed | |
| | 1996 | 1997 Jan. | 1996 | 1997 Jan. | 1996 | 1997 Jan. | 1996 | 1997 Jan. |
| Belgium | -- | -- | 33 | -- | 9,380 | 136 | 1,440 | 29 |
| Canada | 40,500 | 5,170 | 57,700 | 4,540 | 104,000 | 9,440 | 41,900 | 3,680 |
| Chile | 11,800 | 1,190 | 178 | -- | -- | -- | 5 | -- |
| China | -- | -- | 79 | -- | 12,600 | 701 | 24,900 | 2,020 |
| Colombia | 668 | 70 | 3,020 | 42 | -- | -- | 3 | -- |
| Costa Rica | 1,320 | 85 | 386 | 19 | -- | -- | -- | -- |
| Dominican Republic | 603 | 94 | 1,940 | 86 | -- | -- | -- | -- |
| Germany | 4 | 1 | 122 | -- | 7,190 | 99 | 5,290 | 179 |
| Honduras | 275 | 61 | 1,040 | 105 | -- | -- | -- | -- |
| Hong Kong | -- | -- | 120 | -- | 28,600 | 1,850 | 43,200 | 1,140 |
| India | -- | -- | -- | -- | 3,960 | 20 | 29,800 | 2,350 |
| Japan | 2 | -- | 83 | 17 | 19,300 | 1,620 | 18,700 | 1,610 |
| Korea, Republic of | -- | -- | 18 | -- | 5,140 | 290 | 11,200 | 828 |
| Mexico | 27,900 | 1,460 | 42,400 | 3,060 | 2,470 | 79 | 4,030 | 235 |
| Netherlands Antilles | 5 | 18 | 290 | 138 | -- | -- | -- | -- |
| Panama | 1,020 | 131 | 1,100 | 36 | -- | -- | -- | -- |
| Switzerland | -- | -- | -- | 17 | 2,760 | -- | 18 | -- |
| Taiwan | 102 | 3 | 1,480 | 269 | 1,340 | 91 | 4,970 | 166 |
| Thailand | -- | -- | 36 | -- | 37 | -- | 2,460 | 132 |
| United Kingdom | (2/) | -- | 1,310 | -- | 194 | -- | 381 | 19 |
| Venezuela | 2,600 | 212 | 2,540 | 230 | -- | -- | 40 | -- |
| Other | 3,560 r/ | 230 | 7,950 r/ | 607 | 673 r/ | 22 | 6,980 r/ | 332 |
| Total | 90,300 | 8,730 | 122,000 | 9,170 | 197,000 | 14,300 | 195,000 | 12,700 |

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.